

Title: Learn Where You Live: Delivering Information Literacy Instruction in a Distributed Learning Environment

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Abstract: Distributed learning is becoming an increasingly common method of further education in post-secondary institutions and programs across Canada and internationally. Academic libraries are not immune to this trend, and many are reviewing and revising their teaching methodology. All learners require information literacy instruction that is relevant, engaging, and embedded in curriculum; in a distributed learning environment, however, the design and delivery of that instruction may need to be adapted to respond to the challenges of instruction to distributed learners. Through a literature review of distributed learning models in academic libraries and consultation with faculty and librarians at the University of Saskatchewan, this research will assist in determining distributed learning models and instructional design best suited for the provision of information literacy instruction within this environment.

Research Article:

We ignore the shifts in technology and the expectations of the learner, ignore the ground swell of change that is already happening or is well underway, at our peril. We need to change fundamentally how we think about teaching and learning. It will not be the same landscape 10 or 20 years from now. And if we do not change and adopt and adapt, it will very quickly bring into focus the relevance of the university (D. Morrison, personal communication, March 19, 2012).

Introduction

Most librarians will readily acknowledge that reference statistics have seen a steady decline over the past decade as information becomes increasingly available online through open sources. Members of the academic community often believe that everything that they require to conduct research is freely available online and more importantly that they can find it themselves; these beliefs may lead them to in turn question the value of the modern library (Applegate, 2008). Meanwhile libraries struggle to expose the breadth and depth of their materials as collections shift from print to electronic formats. The delivery of information literacy instruction is a means to bridge the gap between user's perceptions and the continuing value of the library to the university. Information literacy includes but is not limited to the student's ability to: create an effective research query; evaluate potential sources of information; utilize advance search techniques to discover useful and relevant research materials; analyze and assess resources; synthesize information into a cohesive understanding of the materials; and finalize the information into some result, whether it be a research paper, presentation or some other creation or output. Hemmig and Montet (2010) state that "information literacy is not a static and limited idea, but a dynamic concept that continues to grow to incorporate a larger set of skills essential for a life of

meaning in an information era” (pg. 660). McLean and Dew (2006) extrapolate that an “information literacy program will equip students with the competencies to gain maximum benefits from their university education” (pg. 320). Williams (2010) notes the significant value of information literacy skills within the “contemporary environment ... [as] rapid technological change and proliferating information resources” (pg. 148) require that students are able to adapt their skills to various research interfaces and situations.

Despite the important role that information literacy skills play in student success, the delivery of information literacy instruction is being challenged by the steady adoption of distributed learning methodologies that question what learning is and how the pedagogy is adapted to fit the learner in a non-traditional classroom environment. Distributed learning is becoming so important that the Association of College and Research Libraries states that academic libraries must ensure equitable service for traditional and distance library users, including library instruction and access to library resources (ACRL, 2008, para. 1-2). As universities venture into distributed education, it is critical for the library to provide meaningful service to these non-traditional users. Yet distributed learning presents many challenges including: how best to deliver the instructional materials, the necessity to understand and utilize technology effectively, and how to market this learning activity successfully.

According to the individuals that were interviewed as part of this project, the University of Saskatchewan generally defines face-to-face learning as synchronous, on-campus and located in a physical classroom. In contrast, the seemingly catchall phrase distributed learning has been used to describe everything beyond these face-to-face encounters such as webinars, tutorials, LibGuides, and video conferencing. For the purposes of this paper, the working definition of distributed learning is the opportunity to learn well beyond the normal scope of the classroom in a variety of formats and modes of delivery. Technology is an integral feature of distributed learning which focuses on the learner instead of the teaching, thus ensuring the students’ active participation in the gathering, understanding and utilization of knowledge.

This research will add to the existing scholarly literature on distributed learning. Recommendations for the delivery of effective information literacy instruction to distributed learners will provide a starting point for further research.

Literature Review

There is no ‘one size fits all’ solution for the provision of information literacy instruction in a distributed learning environment. Evaluating the research literature provides a context for the University of Saskatchewan and for individuals who are currently exploring distributed learning.

York and Vance (2009) postulate that “in order to remain relevant, libraries are finding it necessary to take their services to students rather than waiting for students to come to them” (pg. 198). The success of this article lies in the fact that the authors take a proactive stance making recommendations for moving the information literacy instruction from a physical classroom to an online format, in order to meet the user’s needs in a way that is meaningful and efficient. Recommendations such as “going

beyond the library link” (York & Vance, 2009, pg. 203) suggest that embedding a librarian within an online course allows instruction and reference assistance to be specific to the student’s needs within that class. York and Vance also suggest that it is not necessary to have a virtual presence in every course that is offered campus-wide, instead strategically select courses where library instruction will be of the most benefit to students. Matthew and Schroeder (2006) support this suggestion by stating that “offering students an array of library services not directly related to their classes ... doesn’t make for meaningful and integrated library instruction ... the closer the link between course assignments and library resources to help with these assignments, the greater the likelihood that students will access library information” (pg. 61).

Lockerby and Stillwell (2010) take a similar approach, suggesting that “distance learning librarians are in a position to lead the way in helping faculty and administration provide the best support for this new breed of student who will be challenging the traditional learning environment” (pg. 780). Through a strategic planning process, librarians at the National University library were able to reach the broadest possible audience through the creation of program specific tutorials. Once the initial tutorials were established within the program areas, they began to focus on the individual courses where personalized instruction would have the greatest impact. Lockerby and Stillwell recommend “shifting collection development responsibilities to the technical services side of the library” (pg. 787) allowing the liaison librarians to take on “more responsibility for outreach to online students within their subject areas and increasing collaboration with faculty on library-based assignments” (pg. 786).

Lillard and Dinwiddle (2004) provide an important bridge for much of the research on distributed learning, focusing on the librarian’s presence in virtual courses and the value and meaning of the instruction. Similar to Lockerby and Stillwell, Lillard and Dinwiddle suggest that it is impractical to provide embedded librarianship in every course, recommending instead a focus on specific courses with considerable research components. Being available and accessible within those specific online course tools adds value to the students by “the simple fact that a librarian has the opportunity to let students know about new resources available, offer help to students individually, and be viewed as a personal resource” (Lillard & Dinwiddle, 2004, pg. 143). They go on to argue that “within an online course, the materials and assistance provided [must be] relevant to what is being studied. This can eliminate the need for unrelated library assignments in ‘one-shot’ instruction sessions and replace them with meaningful research assignments created collaboratively with course instructors” (Lillard & Dinwiddle, 2004, pg. 143).

Hemmig and Montet (2010) discuss a pilot project at Bucks County Community College that personalized the library experience for online students. This article acknowledges the importance of building a strong relationship between the teaching faculty and the liaison librarians. In their pilot project, they built the foundation for this relationship by offering information literacy instruction to the teaching faculty as well. Librarians were also encouraged to “customize their presentations for the level and type of class and teach to the specific assignment The emphasis is on the students’ learning and not the librarian’s teaching of multiple sources and skills that may or may not be appropriate Librarians [were also] encouraged to state the learning outcomes” (Hemmig and Montet, 2010, pg. 659). Learning centred

methodology focuses on the goals and objectives of the instructional session thus highlighting what the student will be able to accomplish as a result of attending the session.

McLean and Dew (2006) reiterate the sentiment expressed by Hemmig and Montet claiming that if a student does not see the direct benefit of the library instruction, the student will not be enticed to participate in the instructional session. The remedy is to offer point of need instruction based on specific curriculum expectations. McLean and Dew further the library research by also concentrating on the importance of “connect[ing] with as many students as possible, distance librarians must be aware of the wide variety of student learning styles, especially when their instruction involves new technology” (2006, pg. 318). Focusing on the integration of multiple learning styles into the instruction enhances the overall learning experiences for all students.

Several central themes arise from the scholarly literature: the importance of collaborating with faculty on library initiatives so that library services are designed effectively for students, offering point of need instruction that is specific to the course consequently adding value and meaning to the student, the integration of active learning techniques to increase student engagement, assessment and evaluation to ensure that learning has occurred, and finally the adoption and integration of technology to effectively facilitate learning. The research literature provided a foundation for the interviewing process and informed the recommendations for implementing distributed learning techniques.

Method

Sample

The first participants in the interviewing process were librarians within the University Library system who were identified as knowledgeable and/or experienced with distributed learning and/or off-campus services by the Assistant Dean of Client Services, resulting in five liaison librarians from the health sciences and humanities participating in the initial interviews. Teaching faculty from the Colleges of Nursing and Education were then contacted based upon the recommendations of the participating librarians, thus utilizing a snowball sampling procedure. The Colleges of Nursing and Education are known on campus to be heavily involved with distributed learning methodologies and their advice is viewed as invaluable to informing this process in the University Library. Necessity drives the need to provide distributed learning within these two faculties due to student dispersal across the province and/or satellite campuses; despite the differences in the curriculum. As the intent of this paper is to recommend teaching methodologies that are seen as common to all instructors within a distributed learning environment, consequently the feedback from the existing field of practitioners was sought. In total, twenty-two people were contacted, resulting in sixteen interview participants.

Data Collection

This study utilized a qualitative research approach based upon a thorough literature review and interviews with key stakeholders within the university setting. An Ethics Review application based on the University of Saskatchewan model was completed, submitted and approval granted before the interview process was undertaken.

For this research project, interviews were conducted with individuals who are currently involved with distributed learning methodologies at the University of Saskatchewan; structured around six questions.

1. How would you define distributed learning? How does the university benefit from pursuing this model?
2. Please provide brief details of the distributed learning program that you are currently involved with.
3. What instructional tools are you currently utilizing? What is working? What is not working and why?
4. Have you ever experienced any limitations due to technology? If so, how did the limitations affect the perception of the user when this happened?
5. What marketing strategies have you or your college implemented to promote your distributed learning program(s)?
6. What are your overall impressions in offering distributed learning? Are there any final comments that you would like to make?

To ensure privacy, interview participants are referred to utilizing the numerical order of the interview, for example, participant #1, #2, etc. and the date and time of their interview. The only records of the individual's name were on the calendar of the researcher's personal iPhone, and on the consent forms. Interviews were conducted in a private setting of the participant's choice, so that the researcher was able to record an audio transcript of the interview and jot down personal notes as well. Once the interview was completed, personal notes were compared to the audio transcript, with the goal of summarizing the proceedings, not recording an exact transcription of the dialogue. Interview participants were given the opportunity to review and approve the interview notes. Once the interview notes were approved, the audio recording, as well as the record of the appointment, was deleted; thus removing any link between the participant and his/her remarks.

Information from the interviews was organized into themes as they emerged. The themes support those discovered through the literature review and include: the value and meaning of instruction, the incorporation of active learning techniques, equity of library services for all users, collaboration between the teaching faculty and the library, instructional tools and finally the importance of marketing and promoting the service. Major themes were summarized in a narrative format. Information was used from the interview process, but no direct quotes were incorporated into the final report unless the participant had expressly given his or her permission.

Limitations

This study focused on the insight and expertise of individuals within the Colleges of Nursing and Education currently involved in distributed learning, along with librarians with experience delivering information literacy instruction in a distributed learning environment. The identification of interview participants relied on recommendations from the initial pool of librarians, so it is possible that other individuals with expertise in this area at the University of Saskatchewan could have added value to this research.

Qualitative research relies on the participation of individuals within an interviewing or focus group process. The data collected utilizing this methodology can be unreliable if the researcher is not careful phrasing and delivering the interview questions. In addition, the interviews were summarized rather than transcribed, possibly resulting in the loss of valuable information. These limitations were minimized by allowing the participant to review and approve the interview notes.

Results information and advice gleaned from the interview participants was used to inform the recommendations that are included below. Participant feedback was examined from the perspective of establishing relevant best practices for the University Library in order to further investigate distributed learning methodologies. In the following section, comments from participants are summarized thematically instead of documented by the individual participant or by discipline. Where a significant difference in the response was recorded, the discipline is noted alongside the comments in order to help the reader understand any background context in which the answer was given.

During each interview, participants were first asked to define distributed learning. Their thoughts were briefly referred to in the introduction of this paper. The second half of that question focused on what they saw as the benefit to the University of Saskatchewan for participating in this type of learning environment. Most participants listed increased tuition revenue as one of the top benefits for the university. Distributed learning allows the University to fulfill its mandate by having a broader appeal to the individuals within the entire province of Saskatchewan by providing further options for enrolment. Distributed learning also encourages greater diversity in the student population by increasing enrolment from individuals who are prevented from attending traditional face-to-face classroom learning opportunities, for whatever reason; be it distance from their support system or the desire to maintain a work/home/life balance, etc. There are greater opportunities to engage and collaborate with a larger number of individuals with varying perspectives as distributed learning relies on communication between affiliated institutions through video conferencing or with individuals through Adobe Connect or WebEx for example. The majority of the teaching faculty members that were interviewed within the College of Nursing cited the University's 'Learn Where You Live' initiative, which recognizes the need to keep health practitioners in rural and remote areas as a powerful advantage to participating in this mode of instruction. It was generally felt that if a student was given the opportunity to study within their rural or remote location, they would be more likely to begin their professional practice at this location once their studies were completed. This initiative reiterates the value of being able to interface with professionals in multiple locations within a singular classroom experience; the more people involved the greater the opportunity to learn. One participant from the College of Nursing, who experienced distributed learning first hand in their own studies, stated that while the location is important, so is the aspect of time. Asynchronous instruction allows students to learn at a time that best suits their needs, whether they are balancing parenthood, work and studies, or perhaps are a more effective learner in the late evening. Finally, embracing distributed learning allows the University to stay in-tune with its students and trends in education, giving the perception of innovation, technical expertise and a positive attitude regarding current thinking around pedagogy. Post-secondary education is becoming highly competitive and students are demanding different modes of delivery; if the University of Saskatchewan does not offer the student what they need, it is safe to assume that some other University will.

Next, participants were asked to briefly comment on their personal and/or professional experience with distributed learning. This question provided a rich background and context for the remaining questions, yet the responses are not seen as directly applicable to this research and as such are not included within this paper.

The list of tools and applications provided by interview participants was long and varied, based on the expertise of the individual and their comfort level with technology. Preferred lecture capture tools included: Jing and Camtasia as well as an in-house option that was developed by the University. The majority of the participants embedded their lectures within Blackboard, which is a product that is supported through the University and freely available to all students. One individual also posted their materials on YouTube. Applications that aided in the production of these lecture captures included: Dreamweaver, iMovie, Photo Booth, Quick Time Player, Audacity and Photoshop. Synchronous delivery platforms included: Skype, Gphone, WebEx, Adobe Connect, Elluminate and Blackboard Collaborate tool. Communication with students was achieved through email, phone, Blackboard, video cameras, microphones, NING, Wikis, blogs, Twitter, and Facebook. Smartphones were utilized for accessing drug compendiums and iPads were used for patient teaching. In regards to the integration of technology within the classroom or in the delivery of the learning, the majority of individuals remarked that there should be a compelling reason to introduce technology; it should not be used simply to make the class seemingly more attractive to students. There has to be an educational purpose for the application that is chosen and how it will help to engage the learner, otherwise it may interfere with the teaching. Viggiano suggests that "it makes sense to use the technology that the student is used to, although it may not be technology the librarians are used to" (2004, pg. 40) supporting the theory that students should not be forced to learn more tools/applications than necessary; the teaching staff should be adapting to the learner. Nevertheless, several individuals recommended that all teaching staff be encouraged to stay abreast of trends in technology and experiment with new applications as they come available. Specific challenges for the library included: providing a variety of formats of materials so that all students (on-campus or otherwise) are able to access the information, the equity of library services amongst all users and the difficulty in engaging all learners across the variety of different delivery modes. The use of technology increases the instructional design time expediently, as designing an online course will take a greater lead time, yet the material will be available to a larger audience over a longer period of time which is seen as an advantage of distributed learning methodologies. To summarize, it is important to weigh the pros/cons of your technological integration in order to ensure that an appropriate decision is being made.

The majority of individuals interviewed affirmed that they had experienced technological limitations due to the infrastructure of an affiliated institution and/or an individual student from time-to-time. Access issues were typically related to the lack of high speed Internet connections in rural areas, or the students' lack of understanding/knowledge of the technologies required when participating in this type of learning. It was not uncommon for instructors to spend a great deal of time aiding individual student with access issues during class time. Dealing with these issues, however, has not affected the students' perception of value of the learning experience with most interview participants acknowledging a great deal of patience on the student's part. Instructors are also becoming a lot more diligent in referring students to departments on campus that can aid the student without taking away valuable classroom time.

The researcher was also interested in whether or not a marketing strategy had been implemented to promote distributed educational offerings. When faced with this question the majority of participants recognized the need for a more formal approach to marketing their programs. For the most part, marketing initiatives included a College and/or Department website, brochures, participation in list serves, attendance at conferences, information nights and email distribution lists. One participant stated that it was important to be cognizant of how many individuals can actually be accommodated within a program, instead of over-zealously marketing the program. While another interviewee utilized Twitter to promote open educational sessions appealing to a larger audience than was physically registered in

the course. Many interviewees affirmed that their College was capitalizing on the 'Learn Where You Live' initiative and marketing their program as such, specifically targeting rural areas in Northern Saskatchewan. The University Library promoted their services in much the same manner, relying on lib guides, the library web site, programs and services to speak for themselves. Two key points that continue to percolate are the need to establish and maintain strong relationships and that much of a programs' or Colleges' recruitment strategies are based on the reputation they are able to build.

To conclude the interview, participants were asked what their overall impressions of distributed learning were and if they had any further comments to add that were not covered by the questions themselves. A great number of the participants first remarks were in regards to the significant benefits to students, including: being able to find a balance between work, home and their studies; more control over their learning; and having the ability to create an education experience that was uniquely theirs. Online students are expected to continuously participate in discussion boards and chats sessions, resulting in a very active way to learn and experience the information being shared. Within distributed learning there are a lot of opportunities to collaborate and partake in multi-disciplinary work for both instructors and students alike. Yet to be truly successful, the instructor must see the benefit of this methodology and be committed to active participation throughout the course. To reiterate the recommendation on selection of courses: distributed learning is not an appropriate choice for every course or program; instructors need to be mindful of technology and how it is used and applied in order to effectively deliver their curriculum.

Distribute learning opportunities are available to students at a time that is convenient for them, yet it may be necessary to put a limit on how involved an instructor becomes within a course as students' demand for an immediate response is increasing. Likewise current technologies that are utilized by students support the ability for continuous communication, such as, Twitter, Facebook, Instant Messaging, etc. Distributed learning is resource and time intensive so some work needs to be done to ensure that instructors have an equitable workload compared with their colleagues who continue to teach in 'traditional' classrooms. It should be noted, however, that the increased demand for constant communication with students (outside work hours, evenings and weekends) was seen as very positive to a few individuals who were interviewed. Participants within this research study were innovative and readily embraced technology. They acknowledged that not all of their colleagues felt the same way about a non-traditional classroom that questions what is teaching and learning. Further research on recognizing the barriers for teaching faculty within this model is needed to help individuals who are hesitant in exploring these new methodologies.

Recommendations

Recommendations for the successful implementation of distributed learning have been informed by the research literature and the interviews of teaching faculty and liaison librarians from the University of Saskatchewan.

Relationships

Liaison librarians must build strong relationships with the teaching faculty in their assigned subject area(s). This collaboration will allow for library initiatives and services to be designed effectively for students based upon the user's needs. Knowledge and awareness of the research interests of individual faculty members combined with the curriculum taught within the discipline inform collection decisions and instruction offerings, as well as, other services that can be offered by the liaison librarian.

Selection

Instruction should be offered at the point of need and be specific to the course wherever possible in order to add value and meaning for the student. Along these lines, librarians should choose courses and programs selectively; focusing on those with strong research components and/or assignments to provide the most engaging instruction to students.

Distributed learning is not an appropriate choice for every course or program; instructors need to be mindful of technology and how it is used and applied in order to effectively deliver their curriculum. Distributed learning needs to be designed in such a way as to add value to the materials shared. Distributed learning cannot be viewed as a second rate alternative just because the student was not able to make it to the campus and as such, instructors need to be aware of the ever changing needs of their students by regularly seeking their feedback.

Active Learning

Active learning increases student engagement in the course, their understanding of the materials and retention of critical information. Online students are often expected to continuously participate in discussion boards and chat sessions, resulting in active ways to learn and experience the information being shared. Within distributed learning there are a variety of opportunities to collaborate and partake in multi-disciplinary work for both instructors and students alike. To be truly successful, instructors must be engaged and participate throughout the course while instilling their own personality into their teaching. Through technology, the most effective way to connect with students is limited only by the existing technological infrastructure and the imagination of the instructor.

Assessment

Ongoing assessment and evaluation ensure that learning has occurred, as well as informing improvements in course delivery and instruction. Once the library has implemented a distributed learning strategy, it will be important to assess and evaluate if the instructional pedagogy has been effective. Evaluation of programming is accomplished through surveying students who participated in the instructional sessions and should be ongoing. Evaluation and assessment of student learning and delivery of that information will inform the evolution of effective instruction.

Technology

Instructors should be selective in the adoption and integration of technology into classroom activities, ensuring that the technology assists in the effective facilitation of the learning process and does not distract from it. There has to be an educational purpose for the application that is chosen and an understanding of how it will help to engage the learning; it should not be used simply to make the class 'sexier'. Students should not be forced to learn more tools/applications than necessary; the teaching staff should adapt to the learner wherever possible. Nevertheless, all teaching faculty should be strongly encouraged to stay abreast of the latest trends in technology and experiment with new applications as they become available. A specific challenge for the library is providing a variety of formats so that all students (on-campus and otherwise) are able to access information, to ensure equity of library services amongst all users; whereas all teaching faculty struggle to engage all learners across

the variety of delivery modes. The use of technology increases the instructional design time exponentially, however, through technology, a course can be available to a larger audience over a longer period of time. In short, it is important to weigh the pros/cons of technological integration in order to ensure that an appropriate decision is being made.

Conclusion

Providing distributed learning opportunities benefits academic institutions in numerous ways. Distributed learning allows the university to fulfill its mandate of increasing access to individuals across the entire province of Saskatchewan by providing alternative options for enrolment, thus encouraging a greater diversity in the student population. Students, who may have been previously prevented from attending traditional face-to-face classroom learning opportunities for a variety of reasons, can now participate in a number of university programs. Within this framework, the teaching faculty can also be distributed across the province or beyond as there is no necessity to offer face-to-face instruction on campus; thus offering students the potential to be taught by the best and the brightest instructors within their field. There is a greater opportunity to engage and collaborate with a larger number of both students and instructors with varying perspectives.

The University of Saskatchewan's "Learn Where You Live" initiative recognizes that if a student was given the opportunity to study within their rural or remote location, they are more likely to begin their professional practice at that location once their studies are completed. This initiative reiterates the value of being able to interface with professionals in multiple locations within a single classroom experience which is a powerful advantage of participating in the distributed learning model of instruction. Beyond the benefit of not having to relocate to attend post-secondary education, the aspect of time is also seen as critical. Asynchronous instruction allows students to learn at a time that best suits their needs; providing a more realistic balance between personal activities, work and their studies. Finally, embracing distributed learning allows the University to stay in-tune with its students and trends in education. Post-secondary education is becoming highly competitive and students are increasingly demanding different modes of delivery; if the University of Saskatchewan does not offer students what they need, it is safe to assume that some other university will.

Distributed learning has become an integral part of the instruction offering at universities across Canada. It is important to continuously evaluate and assess how libraries' are delivering information literacy instruction to the students who are participating in this type of learning environment. It is critical for libraries to stay abreast of new research on distributed learning and integrate appropriate technology into the classroom, as it becomes available.

Should future research be conducted on this topic, a focus group and a student survey might be practical options. Research questions might include: what is the demographic of the current student population; what is the percentage of library use after and/or outside of library hours; do traditional students become distance students once the library closes; and what services are offered to all individuals affiliated with the university, outside of library hours?

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